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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,870	12/02/2003	Masashi Goto	2204-11-3	5414

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GRAYBEAL, JACKSON, HALEY LLP
155 - 108TH AVENUE NE
SUITE 350
BELLEVUE, WA 98004-5901

EXAMINER	
NGUYEN, DAO H	

ART UNIT	PAPER NUMBER
2818	

DATE MAILED: 05/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/726,870	GOTO ET AL.	
	Examiner	Art Unit	
	Dao H. Nguyen	2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 March 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5 and 13-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5, and 13-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1205*.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *0106*.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. In response to the communications dated 12/19/2005 through 03/06/2006, claims 1-5 and 13-17 are active in this application.

Claims 6-12 and 18-25 have been cancelled.

Acknowledges

2. Receipt is acknowledged of the following items from the Applicant.

Information Disclosure Statement (IDS) filed on 12/19/2005. The references cited on the PTOL 1449 form have been considered.

Applicant is requested to cite any relevant prior art if being aware on form PTO-1449 in accordance with the guidelines set for in M.P.E.P. 609.

Remarks

3. Applicant's argument(s), filed 02/02/2006 and 03/06/2006 have been fully considered, but moot in view of the new ground of rejection(s).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claim(s) 1, 4, 5, 13, 16, and 17 are rejected under 35 U. S. C. § 102 (b) as being anticipated by U.S. Patent No. 6,404.124 to Sakemura et al.

Regarding claim 1, Sakemura discloses a dielectric device having a dielectric film 13 (fig. 1) formed directly or indirectly on at least a part of a glass substrate or a plastic substrate 10, said dielectric film 13 comprising silicon oxide in a part at least in the direction of the film thickness, the composition ratio of silicon and oxygen being 1:x, wherein X=0.1 to 2.0, which includes between 1:1.91 and 1:1.98 both inclusive. See col. 5, lines 1-18.

Regarding claim 4, Sakemura discloses the dielectric device wherein a silicon layer or a silicon compound layer 12/13 is formed directly or indirectly on at least a part of said glass substrate or said plastic substrate 10, and wherein said dielectric film 13 is formed on at least a part of said silicon layer or said silicon compound layer 12/13. See fig. 1.

Regarding claim 5, Sakemura discloses the dielectric device wherein said plastic substrate is made of polyimide resin, polyetherketone resin, polyethersulfone resin, polyetherimide resin, polyethylenenaphthalate resin or polyester resin. See col. 5, lines 4-42.

Regarding claim 13, Sakemura discloses a semiconductor device having a dielectric film 13 formed on at least a part of a silicon layer 12/14 formed directly or indirectly on at least a part of a glass substrate or a plastic substrate 10, said dielectric film 13 comprising silicon oxide in which the composition ratio of silicon and oxygen is 1:x, wherein X=0.1 to 2.0, which includes between 1:1.91 and 1:98 both inclusive in a part at least in the direction of the film thickness. See also col. 5, lines 1-42.

Regarding claim 16, Sakemura discloses the semiconductor device wherein said dielectric film 13 constitutes a part of a gate dielectric layer relative to the direction of the thickness of the gate dielectric layer. See col. 5, line 1 to col. 6, line 53.

Regarding claim 17, Sakemura discloses the semiconductor device wherein said plastic substrate is made of polyimide resin, polyetheretherketone resin, olyethersulfone resin, polyetherimide resin, polyethylenenaphthalate resin or polyester resin. See col. 5, lines 4-42.

6. Claim(s) 1, 4, 5, 13, 16, and 17 are rejected under 35 U. S. C. § 102 (e) as being anticipated by U.S. Patent No. 6,600,524 to Ando et al.

Regarding claim 1, Ando discloses a dielectric device having a dielectric film 14 or 19 (fig. 1) formed directly or indirectly on at least a part of a glass substrate or a plastic substrate 11, said dielectric film 14/19 comprising silicon oxide in a part at least in the direction of the film thickness, the composition ratio of silicon and oxygen being 1:x, wherein X≥1.7, which includes between 1:1.91 and 1:1.98 both inclusive. See col. 2, lines 1-25; col. 3, line 1 to col. 4, line 46.

Regarding claim 4, Ando discloses the dielectric device wherein a silicon layer 15 or a silicon compound layer 13 is formed directly or indirectly on at least a part of said glass substrate or said plastic substrate 11, and wherein said dielectric film 19, 14 is/are formed on at least a part of said silicon layer 15 or said silicon compound layer 13, respectively. See fig. 1.

Regarding claim 5, Ando discloses the dielectric device wherein said plastic substrate is made of polyimide resin, polyetherketone resin, polyethersulfone resin, polyetherimide resin, polyethylenenaphthalate resin or polyester resin. See col. 2, lines 1-25; col. 3, line 1 to col. 4, line 46; col. 8, lines 24-56.

Regarding claim 13, Ando discloses a semiconductor device having a dielectric film 14/19 (fig. 1) formed on at least a part of a silicon layer 13/15, respectively, formed

directly or indirectly on at least a part of a glass substrate or a plastic substrate 11, said dielectric film 14/19 comprising silicon oxide in which the composition ratio of silicon and oxygen is 1:x, wherein X≥1.7, which includes between 1:1.91 and 1:98 both inclusive in a part at least in the direction of the film thickness. See col. 2, lines 1-25; col. 3, line 1 to col. 4, line 46.

Regarding claim 16, Ando discloses the semiconductor device wherein said dielectric film 13/19 constitutes a part of a gate dielectric layer relative to the direction of the thickness of the gate dielectric layer. See col. 2, lines 1-25; col. 3, line 1 to col. 4, line 46.

Regarding claim 17, Ando discloses the semiconductor device wherein said plastic substrate is made of polyimide resin, polyetheretherketone resin, olyethersulfone resin, polyetherimide resin, polyethylenenaphthalate resin or polyester resin. See col. 2, lines 1-25; col. 3, line 1 to col. 4, line 46; col. 8, lines 24-56.

7. Claim(s) 2, 3, 14, and 15 are rejected under 35 U. S. C. § 102 (e) as being anticipated by U.S. Patent Application Publication No. 2003/0089913 by Takayama et al.

Regarding claim 2, Takayama discloses a dielectric device having a dielectric film 602/604 (figs. 5), 4409b (fig. 7) formed directly or indirectly on at least a part of a glass substrate or a plastic substrate 401 (fig. 2) or 4401 (fig. 7), said dielectric film

602/604 or 4409b comprising silicon nitride in a part at least in the direction of the film thickness, the composition ratio of silicon and nitrogen being 3:3.84. According to paragraphs [0014-0019]; [0058]; [0068-0094], the silicon nitride or silicon oxynitride dielectric film 602/604 or 4409b has the composition ratio in which silicon has a rate of between 25 atomic % to 40 atomic %, and nitrogen has a rate of between 35 atomic % to 65 atomic %. Thus if silicon is selected at a rate of 30%, and nitrogen is selected at 38.4%, then the composition ratio of silicon and nitrogen will be 3:3.84.

Regarding claim 3, Takayama discloses a dielectric device having a dielectric film 602/604 (figs. 5), 4409b (fig. 7) formed directly or indirectly on at least a part of a glass substrate or a plastic substrate 401 (fig. 2) or 4401 (fig. 7), said dielectric film comprising silicon oxynitride having silicon oxide in which the composition ratio of silicon and oxygen is between 1:1.91 and 1:1.98 both inclusive in a part at least in the direction of the film thickness, or said dielectric film comprising silicon oxynitride having silicon nitride in which the composition ratio of silicon and nitrogen is 3:3.84 in a part at least in the direction of the film thickness. According to paragraphs [0014-0019]; [0058]; [0068-0094], the silicon nitride or silicon oxynitride dielectric film 602/604 or 4409b has the composition ratio in which silicon has a rate of between 25 atomic % to 40 atomic %, and nitrogen has a rate of between 35 atomic % to 65 atomic %. Thus if silicon is selected at a rate of 30%, and nitrogen is selected at 38.4%, then the composition ratio of silicon and nitrogen will be 3:3.84.

Regarding claim 14, Takayama discloses a semiconductor device having a dielectric film 602/604 (figs. 5), 4409b (fig. 7) formed on at least a part of a silicon layer (in which source, drain, and channel regions of the transistor being formed; see para. [0083-00880], and/or figs. 2) formed directly or indirectly on at least a part of a glass substrate or a plastic substrate 401 (fig. 2) or 4401 (fig. 7), said dielectric film comprising silicon nitride in which the composition ratio of silicon and nitrogen is 3:3.84 in a part at least in the direction of the film thickness. According to paragraphs [0014-0019]; [0058]; [0068-0094], the silicon nitride or silicon oxynitride dielectric film 602/604 or 4409b has the composition ratio in which silicon has a rate of between 25 atomic % to 40 atomic %, and nitrogen has a rate of between 35 atomic % to 65 atomic %. Thus if silicon is selected at a rate of 30%, and nitrogen is selected at 38.4%, then the composition ratio of silicon and nitrogen will be 3:3.84.

Regarding claim 15, Takayama discloses a semiconductor device having a dielectric film 602/604 (figs. 5), 4409b (fig. 7) formed on at least a part of a silicon layer (in which source, drain, and channel regions of the transistor being formed; see para. [0083-00880], and/or figs. 2) formed directly or indirectly on at least a part of a glass substrate or a plastic substrate 401 (fig. 2) or 4401 (fig. 7), said dielectric film comprising silicon oxynitride having silicon oxide in which the composition ratio of silicon and oxygen is between 1:1.91 and 1:1.98 both inclusive in a part at least in the

direction of the film thickness, or said dielectric film comprising silicon oxynitride having silicon nitride in which the composition ratio of silicon and nitrogen is 3:3.84 in a part at least in the direction of the film thickness. According to paragraphs [0014-0019]; [0058]; [0068-0094], the silicon nitride or silicon oxynitride dielectric film 602/604 or 4409b has the composition ratio in which silicon has a rate of between 25 atomic % to 40 atomic %, and nitrogen has a rate of between 35 atomic % to 65 atomic %. Thus if silicon is selected at a rate of 30%, and nitrogen is selected at 38.4%, then the composition ratio of silicon and nitrogen will be 3:3.84.

Conclusion

8. **THIS ACTION IS MADE FINAL.** A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dao Nguyen whose telephone number is (571)272-1791. The examiner can normally be reached on Monday-Friday 9:00am - 6:00pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms, can be reached on (571)272-1787. The fax numbers for all communication(s) is (571)273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)272-1625.

Andy Nguyen
Primary Examiner
Art Unit 2818

Dao H. Nguyen
Art Unit 2818
May 5, 2006